Catalogue of American Amphibians and Reptiles.

Ernst, C.H. 2008. *Trachemys emolli*.

Trachemys emolli (Legler)
Nicaraguan Slider

Pseudemys scripta emolli Legler 1990:91. Type-locality, "Río Tepetate, 2.5 km northeast of Granada, Granada Province, Nicaragua." "The type locality is a small mud-bottomed creek draining cleared pastureland, reached by driving 1.5 km northwest on the beach from the former Colegio Centro America." Holotype, University of Utah (UU) 6728, alcohol preserved immature female, collected by E.O. Moll and F.V. Nabrotzky, 16-18 May, 1964 (not examined by author).
Trachemys scripta emolli: Iverson 1992:208.
Chrysemys ornata: Savage 2002:36 (part).
Trachemys emolli: Seidel 2002a:289. First use of present combination.

• **CONTENT**. *Trachemys emolli* is a monotypic species.

• **DEFINITION**. Adults have straight carapace lengths of 16–54 cm. The oval carapace is weakly keeled, has a slightly serrate posterior rim, and is highest at the third vertebral scute and widest at the level of the eighth marginals. The pleural scutes may bear a series of low longitudinal ridges or wrinkles, and the vertebral scutes are broader than long. The marginals anterior and posterior to the bridge are flared (more so in hatchlings and juveniles), but those at the bridge are down-turned and are lowest of the series. The adult carapace is olive or brown; that of hatchlings and young juveniles brighter green. Each pleural has a pale yellow or orange, dark brown-centered, black-bordered, complete ocellus; additional lines are generally lacking on the pleurals. The vertebrals have a pattern of short yellow or orange lines in young individuals which are usually absent in adults. The dorsal surface of each marginal is marked with a dark brown blotch partly surrounded by a light band and split by a yellow or orange bar in hatchlings and juveniles; the light band and bar fade with age until the dark blotch predominates in adults. Each ventral marginal bears a dark blotch covering its posterior seam. The bridge is usually over 33% of the carapace length, and large axillary and inguinal scutes are normally present. The bridge is yellow with a pattern consisting of a large dark blotch at the posterior seam of each scute. The light shell marks are most pronounced in young individuals; ontogenetic melanism develops in older individuals of both sexes. The yellow, flat, hingeless plastron is relatively short, about 90% of carapace length, and slightly more broad anterior to the bridge than posterior to it. Width of the posterior plastron lobe is 40% of the carapace length. The plastron is slightly convex anteriorly, and has a shallow posterior notch. The plastral scute formula is: anal > abdominal > pectoral > gular > femoral > humeral (Merchán Fornelino 2002). Hatchlings and juveniles have a large plastron pattern of black-bordered lines extending outward along the transverse seams, and usually surrounding a yellow area along the plastral midseam. A bowlike figure is normally present on the gulars, and may be separated from the rest of the plastron marks. This pattern is most pronounced in younger individuals, but may fade to only dark transverse seam borders in adults. The head is large with an elongated snout (more so in males), and a medially-notched upper jaw. The triturating surfaces of the jaws are narrow and lack elaborate serrations, although the tomium may be finely serrate. A medial ridge is present on the maxilla. Head stripes are yellow. A wide, conspicuous postorbital (supratemporal) stripe is present that is either constricted at the level of the tympanum to form a bilobate figure, or is completely separated at that point to form a short isolated mark approximately 50% as wide as long. This mark is separated from the orbit in about 73% of individuals, but connected posteriorly to a neck stripe 83% of the time. A prefrontal

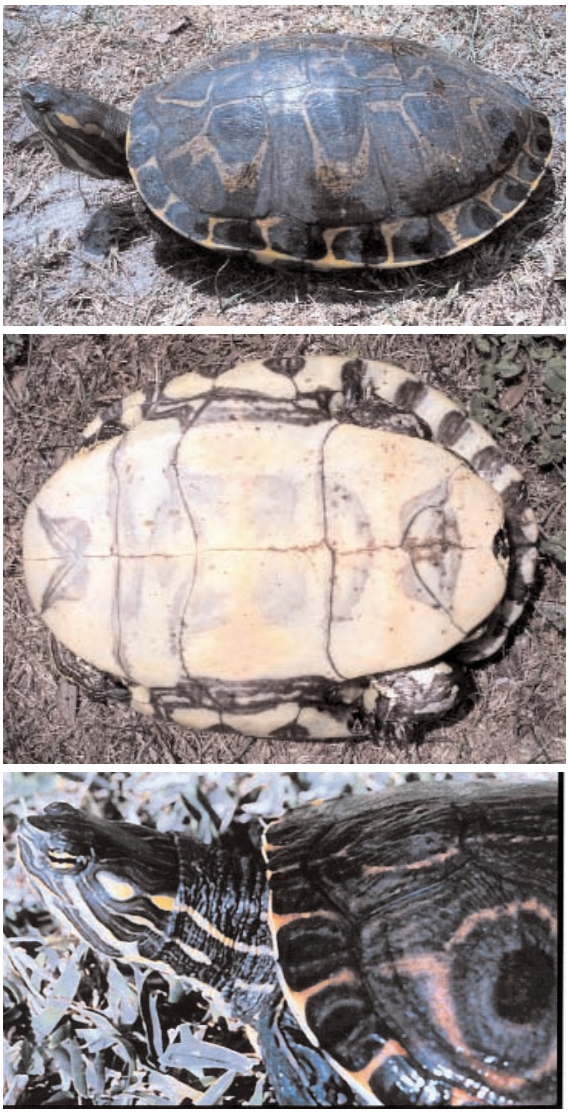


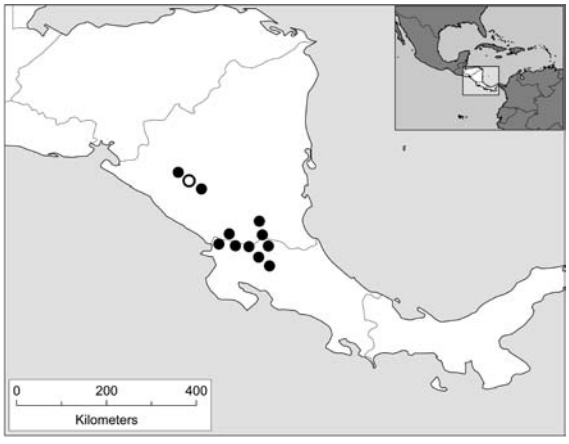
FIGURE 1. Adult, plastron, and head of *Trachemys emolli* (photographs by Dennis Uhrig).

arrow is formed where the supratemporal stripes pass forward from the orbits to contact a light medial sagittal stripe on the dorsal surface of the snout posterior to the nares. A dark, yellow-bordered stripe runs through the eye. The mandibular stripe is isolated in 82% of individuals, but about 1.61 times longer than the isolated postorbital mark or the part of the constricted postorbital stripe anterior to the constriction. The symphyseal stripe forks posteriorly, and usually (in 90% of specimens) is interrupted anterior to the split. The skin is green to olive-brown. The toes are webbed, and the neck, limbs and tail are patterned with yellow stripes.

Males have a smaller (17.9–29.6 cm), less domed carapace; longer, thicker tail with the vent positioned posterior to the rear marginals; a narrower head with more pointed snout; and foreclaws that are not particularly elongated. Females have a larger (18.4–54.8 cm), more domed carapace; a shorter tail with the vent positioned beneath the rear marginals; and a broader head with a shorter, less pointed snout.

• **DESCRIPTIONS**. General descriptions are presented in Bonin et al. (2006), Bour (2003), Ernst et al. (2000), Legler (1990), Savage (2002) and Seidel (2002a). Identification keys are found in Savage (1980, 2002) and Savage and Villa (1986). The plastron formula and juvenile measurements are given by Merchán Fornelino (2002), and Cabrera et al. (1997) present measurements and weights of neonates.

• **ILLUSTRATIONS**. Black-and-white drawings and photographs of the carapace, plastron, lateral and ventral views of the head, and sexual dimorphism of the male and female heads are presented in Legler (1990) and Savage (2002). Color illustrations of the hatchling and adult head are in Bour (2003). Color photographs of adult and hatchlings appear in Bonin et al. (2006), Giebner (2003), Rogner (1995), and Vetter (2005).



Map. Distribution of *Trachemys emolli*: the circle marks the type-locality; dots indicate other records.

• **DISTRIBUTION**. The species is found mostly on the Pacific slope of Nicaragua and extreme northern Costa Rica. It occurs in Lago de Nicaragua and Lago de Managua and in smaller lakes and streams connecting these two large lakes. It is also found in short waterways flowing into these two large lakes from Nicaragua and extreme northern Costa Rica, and some distance on the Atlantic slope down the Río San Juan from Lago de Nicaragua, but not to its delta. Most specimens come from the Río Tipitapa which flows down the isthmus between the two main lakes. Publications discussing distribution include Acuña Mesén (1993), Bonin et al. (2006), David (1994), Ernst et al. (2000), Iverson (1992), Legler (1990), and Pritchard (1993). Maps are presented in Acuña Mesén (1993), Bonin et al. (2006), Ernst et al. (2000), Iverson (1992), Legler (1990), Savage (2002), and Seidel (2002a).

• **FOSSIL RECORD**. None.

• **PERTINENT LITERATURE**. A general account is in Bonin et al. (2006). Systematics and taxonomy are discussed by Bonin et al. (1996), Bringsoe (2001), David (1994), Ernst et al. 2000), Legler (1990), and Seidel (2002a). Legler (1990) discussed the zoogeography of the species and also presented numerous life history data. Other important references include: **morphology/allometry/biometrics** (Merchán Fornelino 2002), **plastron formula** (Merchán Fornelino 2002), **hemoglobin** (Seidel 2002b), **reproduction** (Cabrera et al. 1997; Moll and Legler 1971), **population density** (Mora and Ugalde 1991), hunting pressure and other causes of **mortality** (Mora and Ugalde 1991; Pritchard 1993), **captive breeding** (Giebner 2003), **commercial ranching and pet trade** (Moll and Moll 2004; Pritchard 1993), **diet** (Moll and Legler 1971), and **vernacular names** (Iverson 1992).

• **ETYMOLOGY**. The specific name *emolli* is a genitive patronym honoring Dr. Edward O. Moll, who collected the holotype. He is Professor Emeritus at Eastern Illinois University and a former student of John M. Legler.

• **COMMENT**. *Trachemys emolli* was the last of the former subspecies of *T. scripta* to be described. Legler (1990) considered *T. emolli* most closely related to *T. venusta*, but Seidel (2002a) indicated greater divergence. Its literature is sparse and little is known of its behavior and ecological requirements.

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